

Regional Management of Diseases and Pests to Facilitate Canadian Exports*

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The Canadian agriculture sector is very trade dependent. While agriculture accounts for only about 2.2 % of Canada's GDP, it accounts for approximately 10 % of total Canadian exports. For example, in 2001, Canada's net exports of products such as pork and beef were over 40 % of total production (Serecon Management Consulting Group 2002). Canada's expanding export markets have provided significant benefits for the Canadian agriculture industry but it also carries with it considerable economic vulnerability. One significant source of vulnerability is the possibility of loss of access to important export markets due to the imposition of trade bans in response to a disease or pest outbreak in plants or animals. The degree of this vulnerability was made abundantly clear in Canada when Bovine Spongiform Encephalopathy (BSE, also referred to in the media as

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Mad Cow Disease) was discovered in a Canadian cow. Within days of the May 20th, 2003 announcement that a Canadian animal tested positive for BSE, 34 countries imposed complete or partial bans against imports of Canadian cattle and beef and the political process of having them lifted has been extremely slow and arduous. Estimates of losses to the Canadian beef industry are over \$6 billion (Canadian Animal Health Coalition 2004). The agri-food industry now recognizes the impact that disease/pest outbreaks can have on its ability to export and the dramatic effect on profitability. It also recognizes the importance of international trade law in regulating the use of border measures and that stronger international rules could reduce the risk that border measures can represent. Governments and industry have intensified efforts to create strategies that could mitigate trade losses like those experienced due to BSE in the event of other pest or disease outbreaks. One option that is enshrined in international trade law is to create sub-national regions within the country so that areas without a disease/pest present (or with a lower prevalence) can continue to export even though other regions cannot. This is formally known in the WTO as regionalization.¹

In most countries, including Canada, regionalization has been used before, but primarily as a domestic disease or pest management tool, not as a trade facilitation tool. As a result, strategies and policies to facilitate the transparent and predictable recognition of disease/pest free regions by importing trading partners are significantly underdeveloped. International negotiations have been ongoing for several years to create guidelines to improve implementation of this principle but have borne little fruit. One possible reason is the focus of those involved. The responsible government agencies are primarily staffed by individuals with plant or animal health backgrounds and thus, their focus has been on scientific management of diseases and pests. As Loppacher et al (2006) show, however, the inclusion of economic-based criteria may be an important component of making progress in this area. This article explores the international trade law governing this issue, the domestic initiatives Canada has undertaken to implement a trade-oriented regional strategy and its current international negotiation position. Finally, recommendations are provided to improve the possibility of fully operationalizing a system of market access for products from disease/pest free regions.

International Trade Law to Manage Animal and Plant Diseases or Pests

International trade can be a significant factor in the spread of diseases/pests from one region of the world to another. As such, efficacious international movement controls on potential disease/pest spreading entities such as people, animals, plants or products from plants and animals is a critical component of good disease management. Collectively, in international trade law, these policies are known as sanitary and phytosanitary (SPS) measures. While governments have a legitimate

1. The term “zoning” is sometimes used in Canada.

obligation to prevent disease/pest entry, spread and establishment in their country, they are also often pressured to utilize health regulations as disguised barriers to trade to provide protection from international competition to their national producers (Kerr 2004).

As governments agreed increasingly to constrain their ability to utilize traditional protectionist measures such as tariffs and quotas through consecutive negotiating rounds at the General Agreement on Tariffs and Trade (GATT), illegitimate barriers to trade, such as SPS measures being applied when not warranted scientifically, were seen to be a rising problem in international trade relations. Members agreed to negotiate an agreement within the GATT, the precursor to the World Trade Organization (WTO), which would govern the use of SPS measures that restrict market access, allowing Members to put them in place but only to the extent necessary to protect human, animal or plant health. The significance of having an agreement on the application of SPS measures in the newly created WTO was that it would now be subject to the binding dispute settlement procedures of the WTO and governments would be obligated to abide by the rules agreed upon or face retaliation if they did not. The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) states Members can apply SPS measures to protect human, animal or plant life or health but only to the extent necessary as determined by scientific principles. These measures must not arbitrarily or unjustifiably discriminate between WTO Members where identical or similar conditions exist, including compared to their own country. The purpose is to prevent measures from being applied in a manner that constitutes a disguised restriction on international trade (WTO 1994).

One provision of the SPS Agreement is that countries should be able to export from uninfected regions of their country if those regions can be effectively segregated from infected regions.² This marked a departure from traditional approaches to SPS measures in which country-wide bans from the infected country were the norm. As Loppacher et al (2006) show, being able to export from non-infected regions can have significant economic benefits for a large exporting nation such as Canada that could easily have a localized, controlled outbreak. When designing their regionalization systems for complying with the SPS Agreement, the SPS refers to international organizations housing technical expertise, the World Animal Health Organization (known by the acronym OIE from its original name, Office International des Epizooties) and the International Plant Protection Convention (IPPC). These technical organizations are the primary venues for countries wishing to obtain international recognition of their regionalization efforts.

2. For greater detail on the SPS Agreement and the regionalization article in particular, see Loppacher et al (2006).

Historical Experience with Regionalization in Canada

The Canadian Food Inspection Agency (CFIA) is the government agency responsible for animal and plant health in Canada. The CFIA generally strives for national eradication of animal diseases and thus, has not utilized regionalization for animals extensively, desiring to use it as a 'fallback' strategy only. Ideally, the CFIA would like to achieve disease free status on a national basis but, should this fail, would create zones to both control the outbreak and regain the ability to export from disease free areas of the country. The CFIA has created regions for animal diseases on a limited number of occasions. One of the most frequently used tools of the CFIA to control various plant pests is quarantines. This is primarily because plant pathologists often have fewer tools available to them to use in control of a plant pest than veterinarians do in controlling animal diseases. As such, quarantines are often the most efficacious option. The CFIA has also recognized other countries' efforts at creating distinct disease regions within their country. Recognition of other countries' regionalization efforts is frequently mentioned as an important factor to build good-will and promote reciprocity for when Canada is seeking recognition (Loppacher et al 2006).

Canada applied the regionalization principle with respect to Bluetongue in the Okanagan Valley in British Columbia. Periodic outbreaks occur when the wind carries midges from the US that harbour the disease. As the Rocky Mountains and climatic factors outside the Okanagan Valley create natural barriers to this disease, the CFIA instituted movement controls to allow the rest of the country, which is considered free of the disease, to export. Zoning was also employed in the Brucellosis Eradication Program in the 1980s. Each province was classified according to the level of infection within their borders and movement and testing controls were created for animals moving between or within classes. Regionalization has also been used in Avian Influenza outbreaks in British Columbia. The size of the zone defined while the influenza is being eradicated from the premises it is found on is determined by the pathogenicity³ of the strain present. In the most recent outbreak in November 2005, the zone was eventually reduced to a 5 km radius surrounding the infected premises until the disease was completely eradicated and national disease free status was regained (APHIS 2005). CFIA also frequently employs quarantines in the control of plant pests, for example, during the incursions of Potato Wart, Dutch Elm Disease, Cereal Leaf Beetle and Asian Longhorn Beetle. Programs often combine movement restrictions on the plants, products or soil that can transmit the plant pest and compensation for individuals that incurred losses related to efforts to contain the disease such as loss of plants (particularly trees), disinfection costs or loss of ability to grow certain types of plants in a particular area (CFIA 2006b).

Canada has recognized the regionalization efforts of other countries, primarily

3. Pathogenicity is the virus' capability of causing disease. There are various strains of Avian Influenza which are classified as low or high pathogenic strains. In this case, the virus present was determined to be a low pathogenic strain.

the US, to allow them to export to Canada despite existence of a disease in the exporting country that would normally result in trade restrictions or an embargo. Canada has allowed the importation of poultry from some states in the US despite outbreaks of Avian Influenza in others. A provision has also been made to allow for importation of live swine from some US states despite the presence of Pseudorabies in others. Canada also allows the importation of swine from the Mexican state of Sonora which has been declared as being free from Classical Swine Fever. The most significant and long term animal regionalization program between the US and Canada was for feeder cattle with respect to Anaplasmosis, Brucellosis and Bluetongue which began in 1997. Canada is recognized as free from these diseases while the US is not. As a result, individual testing was required which was economically prohibitive for large scale importation into feedlots. The agreement allowed cattle from Montana and Washington to be imported into Alberta and Saskatchewan from October to March without individual testing for these diseases. These animals, however, faced significant movement restrictions after entering Canada. During the first year of the program, fewer than 1,000 head of cattle were imported under the program as Canadian producers struggled to comply with the restrictions placed on the movement of cattle after their importation. In 1998, the program was extended to include Hawaii, North Dakota and Idaho and removed or relaxed many of the requirements of the original program, especially after an antibacterial treatment was completed. While the program was viewed as a success for both sides, it still imposes significant administrative costs on Canadian importers, partially dampening enthusiasm for importing feeder cattle from the US (Annand 2001). The CFIA maintains differing import requirement depending on the US state (and in certain cases, counties within a state) of origin for various plant products and commodities. Other countries are treated as a single unit. For example, Arizona, California, New Mexico and Texas are considered to be infested with Karnal Bunt⁴ and exports of cereals from those states must undergo testing before being allowed to enter Canada. All other states are free to export to Canada without testing (CFIA 2006).

Canada has not recognized other successful zoning initiatives in some other countries. For example, the OIE recognized the zone south of the 42 parallel in Argentina as a Foot and Mouth Disease (FMD) free zone where vaccination is not practiced (OIE 2005a). However, the CFIA states “the country is not recognized free of FMD” and places restrictions on imports of beef and beef products from the entire country. No fresh meat can be imported from Argentina and these conditions also apply to the zone the OIE has recognized as FMD-free. Canada does allow the importation of processed meat which kills any FMD virus that may be present in the meat (CFIA 2004).

4. A fungus that can affect cereal crops such as wheat or durum and results in mildly reduced yields along with decreased flour quality.

Ongoing Work on Regionalization in Canada

Utilizing quarantines and designating certain regions as infected with a plant pest is a common pest management response by many plant protection agencies world wide, including the CFIA. As such, strategies have been well developed for creating and maintaining distinct disease status between regions. Strategies for creation and management of animal zones, however, are significantly less developed worldwide, and particularly in Canada, as it has not been used extensively. Serious examination of the possibility of creating animal disease zones within Canada began in 2000. Efforts have focused on the possibility of a FMD outbreak. FMD is an OIE List A disease, meaning it is highly contagious and has significant economic impact. Canada is currently recognized as being free of FMD and has not had a case since 1952. A report completed for the Canadian Animal Health Coalition (CAHC) estimated the costs of a small scale FMD outbreak under optimistic conditions would be \$13.7 billion and a large scale outbreak would cost Canada \$45.9 billion. This is many times the losses that have been experienced in the wake of BSE which has been estimated to be approximately \$6 billion. An effective regionalization policy was estimated to reduce FMD costs by up to 45 % or up to \$20.7 billion (Serecon Management Consulting 2002). Two extensive reviews were undertaken by the Animal Disease Surveillance Unit of the Canadian Food Inspection Agency in 2001 and 2002 (CFIA 2001, 2002). Canadian efforts to implement regionalization for the management of animal disease have been primarily undertaken by the CAHC. The CAHC is a multiple stakeholder advisory group for animal health matters. Its members include producer associations, marketing boards, provincial agriculture ministries and veterinary associations. These members see regionalization as having the potential to enhance trade opportunities, limit domestic disease transmission and prepare a second line of defense in the event of a foreign animal disease incursion. However, at the same time, they do not want such initiatives to result in unnecessary interprovincial or other domestic trade barriers (CFIA 2001).

The CAHC is generally focused on traditional, science-based disease management tools, most notably, animal movement controls. Efforts to create zones thus far have addressed, almost exclusively, how effective control points could be implemented. Officials may be overlooking a crucial consideration if disease free areas are to be sustainable – the economic incentives that are created that would encourage efforts to engage in smuggling. For example, if there are two areas in the country that were both export competitive before the presence of a disease, if regionalization is used to allow one area to export while the other cannot, it will have a higher price. Therefore, an incentive is created to smuggle product from the infected region to the disease free region to obtain the premium associated with export freedom. Economic studies of smuggling show that when there is an incentive to smuggle, even with control points, the normal result is that some smuggling will occur (Saba et al 1995). Even if the control points are highly effective and the amount of smuggling successfully engaged in is very small, this may be sufficient to spread a disease into the previously disease free region, putting the importing country at risk if they are accepting imports from this region. If the Canadian

government put in place a policy that eliminated this incentive, for example, by providing producers in the infected region the same price as producers in the disease free region, the probability of unauthorized movement of animals from the infected region to the disease free region would decrease dramatically. This would significantly lower the risk to importing countries accepting product from the disease free regions as it has a much greater chance of remaining disease free, increasing their willingness to accept imports from sub-national disease free regions.

Debate exists as to the approach Canada should take – pre-outbreak or post-outbreak. In a pre-outbreak situation, domestic trade could be constrained and lead to additional unnecessary costs to the industry. However, systems could be created which would allow Canada to test and improve its control mechanisms and prove their effectiveness to trading partners. As such, after a disease outbreak, exports from the disease free region will likely be disrupted much less and normal exports resumed in a shorter period of time (CFIA 2001). The greatest disadvantage of a pre-outbreak approach is that it requires defining the regions before there is an outbreak. This will mean they will have to be based on administrative borders or existing innate factors (such as the Rocky Mountains) and not created on the basis of the dynamics of the disease that is to be controlled. This will likely result in the creation of overly large and sub-optimal regions (Loppacher et al 2006). If a post-outbreak strategy was employed, domestic trade would not have to be constrained when there was not a disease outbreak but trading partners may question if Canada possessed sufficient knowledge and experience with regards to industry demographics, surveillance, identification and movement controls. As such, recognition of disease free regions cleared for export may take significantly longer (CFIA 2001). One of the greatest advantages of defining regions after the disease outbreak has occurred is that they can take into account the various particularities of the disease in question such as location, method of infection and level of contagiousness. This will promote the creation of zones that are at least closer to the optimal size, limiting the costs and maximizing the benefits of implementing regionalization.

In the CFIA's 2001 report, a number of deficiencies were noted that would impede Canada's ability to successfully implement animal regionalization. These were: lack of national retrospective traceability for all susceptible species, lack of continuous movement controls and vehicle disinfection at the boundary of the zones, lack of self-containment within the zones for the entire production cycle of each susceptible species, and meeting OIE surveillance standards within the zones. A system of retrospective traceability would have developmental costs of about \$100 million, movement controls at the perimeter were expected to cost about \$10 million a year, and surveillance for all separately husbanded, susceptible species were expected to cost about \$1 million per region. Early detection of a disease outbreak is one of the most critical components if a disease is to be zoned. The CFIA recognizes that regional disease detection and investigation systems are going to need to be strengthened if Canada is to rely on passive disease surveillance as their early warning system for the existence of a disease. One tool Canada will be able to utilize is the four brand inspection services in British Columbia,

Alberta, Saskatchewan and Manitoba – designed to curtail horse and cattle rustling. Each of these organizations stated they believed they were capable of providing the destination of all cattle sold out of the province for the three weeks prior to a disease outbreak within a three day turnaround. This could be critical when trying to claim a disease has been contained to a certain region. Self-containment within the region also presents significant challenges to the Canadian industry (CFIA 2001). As was discovered after the US border closure because of BSE, Canada has insufficient slaughter capacity in the cattle industry for current cattle flows. The smaller the disease free zones became, the greater this problem would be. The industry also learned that modifying the location of members of the supply chain can take a very long time. These requirements are no longer in the most recent version of OIE guidelines but will often be factors in the risk assessment that importing countries would conduct before recognizing a disease free region.

The CFIA has identified many different situations that could arise in the event of an outbreak that would affect the net benefits that regionalization could provide for the country. The greatest economic benefits from regionalization will occur if a disease or pest outbreak occurred in a zone that was a net importer from the rest of the country or internationally. If this happened, exports can continue from the other region or regions which will prevent prices from becoming depressed. Disease free products, animals or plants could still be imported into the diseased region to satisfy domestic demand. If the outbreak occurs in a region that had been a net exporter, welfare implications for the country as a whole become more complicated. Within the infected region, as exports are cut off, oversupply will result, depressing prices. Outside of the infected zone, prices could be pushed upwards as producers scramble to supply both domestic and export demand (CFIA 2001). Due to the wide variety and uncertainty of potential disease and pest outbreaks and management, the CFIA states it is very hard to quantify the economic benefits of regionalization. In addition, regionalization could have significant social well-being implications, for example, lower stress on farmers and the negative impacts that it can have on their mental and physical wellbeing. A large number of estimates were made for regionalization with respect to animal diseases using different assumptions and many of the estimated benefits ranged from millions to billions of dollars (CFIA 2001). As the infected region becomes smaller, fewer animals or plants are affected and thus the expected losses from implementing regionalization (i.e. compensation costs) decrease and the benefits (i.e. access to international markets for remaining animals, plants or products) increase. Thus, a major priority for the CFIA must be the creation of regions designated as infected that are as small as possible. As discussed below, however, the CFIA plans on creating regions based on pre-existing administrative borders. This will reduce the net benefits of implementing regionalization, possibly to the point where it is no longer welfare enhancing for Canada to implement the strategy. Incentives to prevent circumvention of their administrative measures must be an important factor in the efficacy of any proposed programs. The CFIA makes reference to the issue of compensation for those negatively impacted by a disease only in regards to costs incurred in controlling the disease or pest, for example, animals that are destroyed as part of the disease control program (Loppacher et al 2006).

TABLE 1 Approximate Number of Interprovincial Primary and Secondary Crossings

| BC-AB | AB-SK | SK-MB | MB-ON | ON-QC | QC-Atlantic |
|-------|-------|-------|-------|-------|-------------|
| 7 | 20 | 12 | 1 | 18 | 10 |

Source: CFIA 2001

Defining Borders for Regions

After examination of Canada's existing veterinary infrastructure and legislation, the CFIA determined the political boundaries of the provinces would likely be the most reasonable delimitation of regions in Canada. There have been several special geographic circumstances identified, however, that may allow further subdivisions to be possible, for example, Vancouver Island, Cape Breton Island or the lower peninsula of Ontario. In addition, there are some circumstances where it may be more advantageous to group provinces or parts of provinces together as one region, for example, the area east of the Rocky Mountains in British Columbia combining with Alberta to make a zone or the combination of the three prairie provinces to create another. When implementing a regionalization strategy, strict movement controls are required, especially for OIE List A diseases.⁵ As the number of points that could be used to cross between zones⁶ (and thus, must have control mechanisms) increases, so too does the cost of implementing a regionalization strategy. Table 1 provides the number of primary and secondary roads crossing provincial boundaries in Canada (CFIA 2001).

As one can see in the table, there is only a single road crossing from Manitoba to Ontario. The town of West Hawk Lake, on the Manitoba side of the border, is closest to this crossing. West Hawk Lake (WHL) was identified by the CFIA as the best place to implement a zoning boundary in Canada.

West Hawk Lake

There are a number of characteristics which make WHL a good potential site for a control point in implementing a zoning boundary. The primary reason is that it is the only crossing between the East and West, as mentioned above, and most livestock movement between the possible regions use this road. WHL would become a stationary point where all animal movements are recorded. This data, along with animal identification, would allow tracking and tracing of animal and

5. OIE List A diseases are diseases which are very rapidly spread with serious socioeconomic or public health consequences. The list includes, inter alia, African Swine Fever, Avian Influenza, Foot and Mouth Disease, Newcastle Disease and Rinderpest.

6. This discussion assumes movement is due to human involvement, for example, a producer shipping their cattle herd to slaughter. It is not valid for animal movement that occurs naturally, for example, wild bird migration.

product movement between the regions. During outbreak periods, the role of WHL would be analogous to an international border, prohibiting or tightly controlling movement of products into the disease free region so as to maintain its status. The estimated net present value of start-up costs and annual operational costs of WHL is approximately \$19.1 million while net benefit over the next 20 years was estimated to be between \$5 billion and \$20 billion depending on the magnitude and characteristics of a disease outbreak. As such, Canada has chosen to move forward on this initiative and is currently in a pilot test phase (Scott Wolfe JDG Consulting Group 2004). A significant disadvantage of WHL is, however, that it divides Canada into two very large regions. These regions are likely so large that the regionalization program will not be able to capture many of the benefits available in the disease or pest free area and will incur significant costs in the infected region. As an illustration, the western region contains most of Canada's livestock (for example, 80 % of all cattle) so if a disease outbreak occurred in the western region, most producers would be in the region facing depressed prices and the eastern region would have little or no capacity to export (and may even be a net importer).

Other Potential Zone Borders Examined

The CFIA has also examined other potential zoning borders that could be utilized. The key criteria they consider are the natural physical boundaries, the potential for easily collecting animal and animal product movement data, the potential for easily enforcing operations at the border, existing, or potential for, inspection stations, meeting OIE guidelines and requirements, meeting US requirements, and the magnitude of economic benefits possible. They examined creating zones encompassing Prince Edward Island, the Maritimes, Quebec and Ontario, Saskatchewan, Vancouver Island and British Columbia to determine if they were both feasible and economical. Zoning Prince Edward Island, the Maritimes and Vancouver Island was determined to be possible but that economic benefits may be limited. Zoning Quebec and Ontario was viewed as having high economic benefits but very high operational costs as well but that these costs may be justified. While zoning Saskatchewan was determined to have substantial economic benefits, it was viewed to be not very feasible to implement. Finally, zoning British Columbia was assessed as having both moderate costs and benefits (Scott Wolfe JDG Consulting Group 2004). These results highlight the importance of not defining regions based on existing administrative boundaries and using control points only to enforce the zone. For example, defining Saskatchewan as a region was viewed as having large benefits but not feasible to implement using the current strategy of the CFIA. If the incentive to smuggle was removed, it may be possible to successfully define a small area within Saskatchewan as infected as there would be no incentive to try to move product outside of this area. If regions are defined pre-outbreak, however, they can only be designed based on administrative borders.

In the work that has been completed thus far, efforts have focused almost entirely on creating control points at the borders of regions. However, as discussed

above, history suggests if there is an economic incentive to smuggle, despite the best control plans, some smuggling is likely to occur. While the CFIA plans to create control points are a good first step, without policies to remove the incentive to smuggle from the infected region to the non-infected region, smugglers will almost certainly discover deficiencies that they can exploit. Even if these deficiencies are very limited and very little smuggling takes place, with a highly contagious disease like FMD, it might only take one infected animal to spread the disease to the previously disease free area and lose the benefits of regionalization. Hence, compensation is an essential co-requisite to administrative measures. The compensation plan must be decided on before an outbreak occurs and clearly communicated to the industry to relieve fears in the event of a rumour circulating about a disease outbreak. Without a guarantee that their livelihood will be safeguarded regardless of the discovery of a disease within a region, producers may rush to move animals or animal products out of the infected zone which could cause the disease to spread to the other region(s).

International Negotiations on Regionalization

If regionalization is to be used to partially regain market access after a domestic disease or pest outbreak, a necessary prerequisite will be for importing countries to recognize Canada's disease or pest free region(s). However, a large number of countries, including Canada, have experienced great difficulty in obtaining recognition of their disease/pest free regions. Many countries complain that long administrative delays are experienced and suggest these may be partially protectionist motivated. Canadian cattle producers have already experienced the frustration that administrative delays can cause after having to wait over two years after the announcement of BSE in the domestic herd to be declared a minimal risk country by the US and being able to resume exports of some live animals.⁷ In recognition of this problem, discussions began at the WTO Committee on Sanitary and Phytosanitary Measures (SPS Committee) as to how implementation of this obligation of the SPS Agreement could be improved. Discussions began in earnest in 2003 and regionalization has been an agenda item for every SPS Committee meeting since that time.

One of the first steps taken was asking Members to submit documents outlining their experiences with regionalization. A detailed summary of these submissions is available in Loppacher et al (2006). The most frequent contributors were the European Union and Latin American countries regarding Foot and Mouth Disease. Submissions highlighted numerous specific cases of how regionalization was implemented domestically and the international response they encountered

7. While the Canadian cattle industry was very frustrated with the length of time that was taken for the US to recognize Canada as a minimal risk country and change import regulations to allow live animals from Canada, it was in fact the best treatment any country has ever received from the US. Efforts were partially delayed by legal actions taken by a producer organization, R-CALF USA. For greater detail of the BSE crisis in North America, see Loppacher and Kerr (2005).

when attempting to obtain recognition of their disease or pest free regions. A large number of concerns were raised by exporters over the uncertainty associated with obtaining recognition and the length of time that was often required. Importers also submitted their experiences with evaluating requests from exporting Members and obtaining sufficient assurances over the safety of the product originating in the disease or pest free region. Canada provided both perspectives with two recent examples. As an exporter, Canada noted the difficulties that were experienced following the outbreak of highly pathogenic Avian Influenza in domestic poultry in 2004. While they noted that many countries followed OIE guidelines, a number did not recognize differences in regional status for the disease. In addition, some Members continued to maintain measures for more than six months after Canada was declared free of Avian Influenza. As an importer, Canada highlighted the treatment it gave to the EU during the 2001 outbreak of FMD. They initially banned entry of FMD-susceptible product from all EU countries. Following a review of information from the European Commission, the 10 Member States that had not had a confirmed case were allowed to export again and measures were removed for all countries that had an outbreak, except the UK, within approximately five months (WTO 2005).

Submissions to the SPS Committee stressed the frequency of countries successfully creating disease and pest free regions within their national borders only to face significant delays in obtaining recognition by their trading partners. Currently, there are no extensive guidelines or rules that countries must follow for recognizing regionalization. This creates significant opportunity for protectionist-motivated administrative delays. The discussions at the SPS Committee have centred on these problems and how to best create rules and procedures to promote a reasonable balance between the benefits of enhanced trade and the increased risk of potential costs due to a disease spreading. Unfortunately, little progress has been made despite being on the agenda of every SPS Committee meeting since 2003 (Loppacher et al 2006).

The primary issue of debate at the SPS Committee is the possible creation of guidelines on administrative (as opposed to technical) procedures. Many countries hope that if administrative guidelines were created, recognition of disease free regions would be quicker, more transparent and more predictable. While there is general agreement that these administrative guidelines should be created, there is significant disagreement between Members as to where they should be created and their scope and detail. For example, some countries wish to see extensive guidelines with timeframes stated for each step. Others are opposed to any set timeframes to be included as they feel it would take away much needed discretion. Some countries, the most active of which is Chile, suggest technical guidelines should be left to those that have the necessary expertise – the OIE and IPPC but that administrative guidelines should be created by the SPS Committee. Other countries that support this position include Peru, Argentina, China, Mexico, Brazil, Colombia, Costa Rica, Uruguay, and the European Union. Canada was the first Member to put forth the position that administrative rules should be created at the OIE and IPPC. Canada had several reasons for this. Members were reminded that the SPS Agreement called on the SPS Committee to work closely with the OIE and

IPPC. Canada felt that creating guidelines in the SPS Committee would be duplication of effort which would be particularly difficult for developing countries that have limited negotiating resources. They also worried SPS created rules could conflict with OIE and IPPC rules. In addition, it is Canada's view that it can be difficult to differentiate between administrative and technical issues in addressing delays and that technical and administrative requirements are intertwined. As such, they argued that any administrative guidelines needed to be created by the OIE and IPPC. Canada suggested that the proper role of the SPS Committee was to serve as an information exchange by collecting and disseminating information between Members (WTO 2004, 2005). This position was generally supported by the US, Japan, New Zealand and Australia.

Despite being in serious discussions on this topic for approximately three years, it does not appear that Members are any closer to coming to an agreement on where and how these guidelines should be created or their scope. Even without a clear mandate from the SPS Committee, during 2005, both the OIE and the IPPC responded to calls to create guidelines to address regionalization. In May 2005, the OIE adopted a new chapter in the Terrestrial Animal Health Code that specifically deals with zoning and compartmentalisation.⁸ In October 2005, the IPPC released a draft standard that would be considered by the Commission on Phytosanitary Measures in April/May 2006 and, after modification if necessary, sent out for country consultation before possible approval in June 2007. The approved guidelines of the OIE and the proposed guidelines of the IPPC both do little to address the concerns that have been raised at the SPS Committee. Both guidelines are general guidance on the recognition process with general steps that *could* be followed. Neither set of standards addresses specifics, administrative delays or timeframes (WTO 2006b; OIE 2005b). In a communication to the SPS Committee, the OIE also noted that the Terrestrial Code already contained detailed technical recommendations for countries, zones or compartments to be considered free from FMD, Avian Influenza, BSE and Classical Swine Fever (WTO 2006a). This supports the position that it is administrative guidelines that are required, not technical guidelines. The issues raised by a number of countries in the SPS Committee meetings regarding the absence of extensive guidelines for obtaining recognition of disease and pest free regions once they are established have not been addressed, and again, there is no mention of incentives to smuggle between regions within a country.⁹ If administrative disease control measures are not foolproof, removing incentives to cheat seems to be the most logical way to increase their efficacy. Admittedly, this is not in the usual purview of science-based organizations like the OIE and IPPC.

8. For the purposes of the Terrestrial Code, zoning and compartmentalisation are procedures implemented by a country with a view to define subpopulations of different animal health status within its territory for the purpose of disease control and/or international trade. Zoning is when the subpopulation is based on geography and compartmentalisation is based on management systems related to biosecurity.

9. Although this may be contained under the risk assessment umbrella required by both the OIE and IPPC.

An interesting and important point to ponder is why countries are not willing to accept exporters' claims of sub-national disease or pest status when they are willing to accept the same organization's country-wide claims of disease or pest status. Although countries have been unable to articulate their concerns, it is very likely that they realize the difficulty of eliminating smuggling between regions through control mechanisms alone and have doubts that exporting countries can ensure a disease or pest free area remains so. Adding this explicitly to the discussions may be the best way to break the logjam that currently exists in the negotiations (Loppacher et al 2006).

The Way Forward for Canada

Since Canada began work on animal regionalization in 2000, it has significantly advanced its preparation to be able to implement regionalization in the event of a large scale disease outbreak such as FMD. Lessons learned during this time were likely helpful in implementing regionalization surrounding the recent small-scale Avian Influenza outbreaks in British Columbia. Significantly more work, however, is still needed. Domestically, the CFIA needs to: 1) formally incorporate the issue of preventing smuggling in their agenda; 2) create a strategy to eliminate the incentive to smuggle, possibly through a well designed compensation program and communicate this to the industry before an outbreak; 3) focus on creating zones that are as small as possible given the nature of the disease outbreak and are responsive to the particular dynamics of a disease outbreak. This includes avoiding use of solely administrative borders to define zones; and 4) continue working on plans for operation of control points which would still be needed to prevent mistakes. In the international arena, the CFIA needs to: 1) promote the idea of incorporating the issue of incentives into the ongoing discussions at the SPS Committee as an essential co-requisite to strengthening administrative measures; and 2) work diligently to ensure more concrete standards are created at the WTO which establish the procedure importing countries must follow in accepting or rejecting exporters request for recognition of their disease or pest free regions. These guidelines need to address administrative issues to improve the transparency and predictability of this area of international law while still ensuring importing countries can apply the necessary restrictions to ensure plant, animal and human health is protected to the necessary degree.

References

- Annand, M. 2001. *Regionalization of Trade in Livestock and Livestock Products*. International Agricultural Trade Research Consortium. <http://www.csale.usask.ca/PDFDocuments/regionTradeLivestock.pdf>, accessed October 15, 2008.
- APHIS. 2005. *Statement by Chief Veterinary Officer John Clifford Animal and Plant Health Inspection Service Regarding Avian Influenza in Canada*,

- http://www.aphis.usda.gov/newsroom/content/2005/12/ai_canada.shtml, last accessed October 15, 2008.
- CAHC. 2004. *An Executive Summary of the 2003/04 CAHEM Project for Stakeholders in Canadian Animal Health Emergency Management*, <http://www.animalhealth.ca/members/reports/CAHEM-ExecutiveSummary-English.doc.pdf>, accessed October 15, 2008.
- CFIA. 2001. *Protecting Canadian Export Markets of Livestock and Animal Products through Zoning*. Discussion paper for Canadian Animal Health Network. Animal Disease Surveillance Unit. August. <http://www.cahnet.org/projects/zoning/zoning2001.pdf>, accessed October 15, 2008.
- _____. 2002. *Zoning Canada...From Principle to Practice...*. Animal Health Surveillance Unit. March. <http://www.cahnet.org/projects/zoning/zoningphase2.pdf>, accessed October 15, 2008.
- _____. 2004. "Animal Products Directorate. Food of Animal Origin. Meat Hygiene Manual of Procedures". Chapter 10 Annex A: *Conditions for Importation of Meat Products from Argentina*, <http://www.inspection.gc.ca/english/anima/meavia/mmopmmhv/chap10/annexesa/argentine.shtml>, accessed August 12, 2004..
- _____. 2006a. List of Propagative Plant Material and Other Commodities that Require an Import Permit if Originating (i.e. Place of Propagation) from the Continental United States, <http://www.inspection.gc.ca/english/plaveg/internat/d-94-141ste.shtml>, accessed October 15, 2008.
- _____. 2006b. *Plant Pests*, <http://www.inspection.gc.ca/english/plaveg/pestrava/comnome.shtml>, accessed October 15, 2008.
- Kerr, W. 2004. "Sanitary Barriers and International Trade: Governance Issues for the NAFTA Beef Market", in R. Loyns, K. Meilke, R. Knutson and A. Yunez-Naude (eds.). *Keeping the Borders Open*. Proceedings of the Eighth Agricultural and Food Policy Systems Information Workshop, January 25-27, 2002. Guelph: University of Guelph.
- Loppacher, L. and W. Kerr. 2005. "The Efficacy of World Trade Organization Rules on Sanitary Barriers: Bovine Spongiform Encephalopathy in North America". *Journal of World Trade*, 39: 427-443.
- Loppacher, L., W. Kerr and R. Barichello. 2006. "A Trade Regime for Sub-National Exports under the Agreement on the Application of Sanitary and Phytosanitary Measures". Commissioned Paper for the Canadian Agriculture Trade Policy Research Network, http://www.uoguelph.ca/~catprn/publications_commissioned_papers.shtml, accessed October 15, 2008.
- OIE. 2005a. "List of Foot and Mouth Disease Free Countries". *Resolution*, 20: May 24, http://www.oie.int/eng/info/en_fmd.htm, accessed October 15, 2008.
- OIE. 2005b. *Terrestrial Animal Health Code 2005 – Chapter 1.3.5: Zoning and Compartmentalisation*, http://www.oie.int/eng/normes/mcode/en_chapitre_1.3.5.htm, accessed October 15, 2008.
- Saba, R., R. Beard, R. Ekelund Jr and R. Ressler. 1995. "The Demand for Cigarette Smuggling". *Economic Inquiry*, 33:189-202.
- Scott Wolfe JDG Consulting Group. 2004. *West Hawk Lake Zone Border Plan*. On behalf of the Canadian Animal Health Coalition. February, <http://www>.

- animalhealth.ca/members/reports/CAHEM-WestHawkLakeZoneBorderPlan-Eng-March31_2004.pdf, accessed August 10, 2004.
- Serecon Management Consulting Group. 2002. *Economic Impact of a Potential Outbreak of Foot and Mouth Disease in Canada*. Prepared for Canadian Animal Health Coalition. Nov. 8, http://www.animalhealth.ca/FOOTMOUTH_FINALREPORT.pdf, accessed August 10, 2004.
- WTO. 1994. *Legal Texts: The Agreement on the Application of Sanitary and Phytosanitary Measures*, http://www.wto.org/english/docs_e/legal_e/15-sps.pdf, accessed October 15, 2008.
- _____. 2004. *Decision on the Implementation of Article 6 of the Agreement on the Application of Sanitary and Phytosanitary Measures*. Proposal by Canada. 16 March. G/SPS/W/145.
- _____. 2005. *Implementation of Article 6 of the SPS Agreement (Regionalization)*. Communication from Canada. 15 December. G/SPS/GEN/613.
- _____. 2006a. OIE Activities on Zoning and Compartmentalization. 23 January. G/SPS/GEN/625.
- _____. 2006b. Pest and Disease Free Areas – Article 6: Update of Activities of the International Plant Protection Convention (IPPC) June 2005-June 2006. 24 January. G/SPS/GEN/626